

Claims

1. In a printing environment having equipment for processing print jobs, a method,  
5 comprising the steps of:  
receiving a selected print job;  
dividing the selected print job into batches, where a size of each of the  
batches is selected to substantially optimize a time period it takes for the selected  
print job to be fully processed; and  
10 processing the batches separately and concurrently to complete  
processing of the print job.
2. The method of claim 1, wherein the size of each of the batches is based at least  
in part on the time it takes for the equipment to fully process each batch.
- 15 3. The method of claim 1, wherein the size of each of the batches is based at least  
in part on the time it takes for the equipment to switch from processing a first batch to  
operating on a second job.
- 20 4. The method of claim 1, wherein the batches are all processed by a same group of  
the equipment
5. The method of claim 1, wherein the size of each of the batches is chosen to fully  
optimize the time period it takes the selected print job to be fully processed.
- 25 6. The method of claim 1, wherein the selected print job is processed as a serial  
sequence of operations.
7. The method of claim 1, wherein the selected print job entails at least one  
30 assembly where documents from multiple sources are assembled into a single entity.
8. A medium for storing instructions for performing a method in a printing  
environment having equipment for processing print jobs, comprising the steps of:  
receiving a selected print job;  
35 dividing the selected print job into batches, where a size of each of the  
batches is selected to substantially optimize a time period if takes for the selected  
print job to be fully processed; and

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processing the batches separately and concurrently to complete processing of the print job, wherein each batch is processed by a subset of the equipment.

5 9. The medium of claim 8, wherein the size of each of the batches is based at least in part on the time it takes for the equipment to fully process each batch.

10 10. The medium of claim 8, wherein the size of each of the batches is based at least in part on the time it takes for the equipment to switch from processing a first batch to operating on a second job.

11. The medium of claim 8, wherein the subsets of each equipment that process the batches are mutually exclusive.

15 12. The medium of claim 8, wherein the size of each of the batches is chosen to fully optimize the time period it takes the selected print job to be fully processed.

13. In a printshop, a method of optimizing the printing of a print job, comprising the steps of:  
20 identifying each operation that is required to complete the print job, said print job being for a specified number of production items;  
determining a processing time required for each operation per production item;  
determining an inter-batch handling time that is required to switch  
25 between batches for each operation;  
determining a set up time for each operation; and  
based on the processing times, the inter-batch handling times, and the setup times, determining the batch sizes of batches for the print job, wherein the batches are to be printed.

30 14. The method of claim 13, wherein each batch is approximately a same size.

15. The method of claim 13, wherein each batch is printed in parallel with other batches.

35 16. The method of claim 13, wherein each batch is printed by a separate autonomous cell.

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17. The method of claim 1, wherein batch sizes are chosen to minimize total time required for complete printing of the print job.

5 18. In a printshop, a method of comprising the steps of:

representing a print job as a sequence of interconnected nodes, wherein each node represents an operation and said nodes are interconnected by edges representing workflow between operations;

10 identifying paths in the sequence of nodes and edges extending from an  
initial node, that has no predecessor nodes interconnected to it, to a last node,  
that has no successor nodes interconnected to it, in the sequence of  
interconnected nodes representing the print job;

identifying a critical path among the paths, said critical path being the path that takes a longest amount to time complete processing of a batch; and

15                   dividing a print job into batches of given batch sizes for processing by the  
                       printshop, wherein batch sizes are chosen to optimize processing time for the  
                       critical path.

19. The method of claim 18, wherein the method is performed by an electronic  
20 device.

20. The method of claim 18, wherein the electronic device is a computer system.